

AMENDMENTS TO THE SPECIFICATION:

Please replace the third^{full} paragraph at page 3, beginning at line 16, which starts "In a second aspect", with the following amended paragraph:

In a second aspect, the present invention provides a white light emitting device including a UV semiconductor light source having a peak emission of from about 250 to about 400 nm and a phosphor blend including ~~(Ba,Sr,Ca)SiO₄:Eu~~ (Sr,Ba,Ca)₂SiO₄:Eu, and one or more garnet phosphors having the general formula (Y,Gd,La,Lu,T,Pr,Sm)₃(Al,Ga,In)₅O₁₂:Ce and a magnesium fluorogermanate phosphor having the formula Mg₄FGeO₆:Mn⁴⁺ (MFG).

Please replace the fourth^{full} paragraph at page 3, beginning at line 22, which starts "In a third aspect", with the following amended paragraph:

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In a third aspect, there is provided a white light emitting device including a semiconductor light source emitting at from about 370 to about 500 nm and a phosphor blend including ~~(Ba,Sr,Ca)SiO₄:Eu~~ (Sr,Ba,Ca)₂SiO₄:Eu, and one or more of (Sr,Mg,Ca,Ba,Zn)₂P₂O₇:Eu,Mn ("SPP"); (Ca,Sr,Ba,Mg)₅(PO₄)₃(Cl,F,OH):Eu,Mn ("HALO"); (Sr,Ba,Ca)MgAl₁₀O₁₇:Eu,Mn ("BAM, BAMn"); and Mg₄FGeO₆:Mn⁴⁺ (MFG).

Please replace the fourth^{full} paragraph at page 8, continuing to page 9, beginning at line 27, which starts "In one embodiment", with the following amended paragraph:

In one embodiment, the invention provides a novel phosphor composition, which may be used in the phosphor composition 22 in the above described LED light, having the general formula ~~(Ba,Sr,Ca)SiO₄:Eu~~ (Sr,Ba,Ca)₂SiO₄:Eu. As used herein with respect to the above described phosphor, Eu is meant to denote the Eu²⁺ ion. The amount of Eu²⁺ doping in the phosphor will preferably range from about 0.001 to 0.2.

Thus, in this embodiment, the phosphor can be described as having the formula $(\text{Ba}, \text{Sr}, \text{Ca})_{2-m} \text{SiO}_4 : \text{Eu}_m$, where m is from 0.001 to 0.2. A preferred phosphor composition has the formula $(\text{Sr}_{0.95} \text{Ba}_{0.025} \text{Eu}_{0.025})_2 \text{SiO}_4$. A second preferred phosphor composition has the formula $(\text{Sr}_{0.58} \text{Ca}_{0.36} \text{Eu}_{0.06})_2 \text{SiO}_4$. When used with an LED emitting at from 250 to 500 nm and optionally with one or more additional phosphors, the resulting lighting system will produce a light having a white color, the characteristics of which will be discussed in more detail below.

Please replace the third^{full} paragraph at page 10, continuing to page 11, beginning at line 27, which starts "Thus, in a second embodiment", with the following amended paragraph:

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Thus, in a second embodiment, there is provided a white light emitting device including a UV emitting LED chip emitting at from about 250 to about 400 nm and a phosphor blend including the above described ~~$(\text{Ba}, \text{Sr}, \text{Ca}) \text{SiO}_4 : \text{Eu}$~~ $(\text{Sr}, \text{Ba}, \text{Ca})_2 \text{SiO}_4 : \text{Eu}$ phosphor, and one or more garnet phosphors having the general formula $(\text{Y}, \text{Gd}, \text{La}, \text{Lu}, \text{T}, \text{Pr}, \text{Sm})_3 (\text{Al}, \text{Ga}, \text{In})_5 \text{O}_{12} : \text{Ce}$ and a magnesium fluorogermanate phosphor having the formula $\text{Mg}_4 \text{FGeO}_6 : \text{Mn}^{4+}$ (MFG). The relative amounts of each phosphor in the phosphor blend can be described in terms of spectral weight. The spectral weight is the relative amount that each phosphor contributes to the overall emission spectra of the phosphor blend. The spectral weight amounts of all the individual phosphors should add up to 1. In a preferred embodiment, each of the above described phosphors in the blend will have a spectral weight ranging from about 0.01 to 0.7.

Please replace the first^{full} paragraph at page 11, beginning at line 5, which starts "In a third embodiment", with the following amended paragraph:

In a third embodiment, there is provided a white light emitting device including a UV emitting LED chip emitting at from about 370 to about 500 nm and a phosphor blend

including the above described ~~(Ba,Sr,Ca)SiO₄:Eu~~ (Sr,Ba,Ca)₂SiO₄:Eu phosphor, and one or more of (Sr,Mg,Ca,Ba,Zn)₂P₂O₇:Eu,Mn ("SPP"); (Ca,Sr,Ba,Mg)₅(PO₄)₃(Cl,F,OH):Eu,Mn ("HALO"); (Sr,Ba,Ca)MgAl₁₀O₁₇:Eu,Mn ("BAM, BAMn"); and Mg₄GeO₆:Mn⁴⁺ (MFG). Again, in a preferred embodiment, each of the above described phosphors, when present in the blend, will have a spectral weight ranging from about 0.01 to 0.7.

Please replace the second ^{full} paragraph at page 11, beginning at line 12, which starts "Depending on the exact", with the following amended paragraph:

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Depending on the exact formulation, the ~~(Ba,Sr,Ca)SiO₄:Eu~~ (Sr,Ba,Ca)₂SiO₄:Eu phosphor may have a quantum efficiency of about 50% or greater of a typical YAG:Ce phosphor and about 60% or greater of an SPP phosphor. In addition, (Sr_{0.95}Ba_{0.025}Eu_{0.025})₃Al₅O₁₂₂SiO₄ has an absorption of 60% at 450 nm and 76% at 405 nm, compared to about 57% for an SPP phosphor at 405 nm.